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Sherwood

OPERATING INSTRUCTIONS
MODE D'EMPLOI
INSTRUCCIONES DE FUNCIONAMIENTO

RD-7405

AUDIO / VIDEO RECEIVER
RECEPTEUR AUDIO/VIDEO
RECEPTOR DE AUDIO/VIDEO

ENGLISH

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings.
   Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other.
   A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.
    When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

PORTABLE CART WARNING

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

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Introduction

READ THIS BEFORE OPERATING YOUR UNIT

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

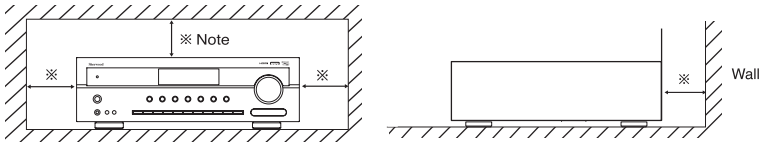
This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING : TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Caution regarding installation

Note : For heat dispersal, do not install this unit in a confined space such as a bookcase or similar enclosure.



Do not block ventilation openings or stack other equipment on the top.

Note to CATV System Installer :
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

FCC INFORMATION
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution : Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

FOR YOUR SAFETY

U.S.A **CANADA**	**120 V**

Units shipped to the U.S.A and CANADA are designed for operation on 120 V AC only.
Safety precaution with use of a polarized AC plug.
However, some products may be supplied with a nonpolarized plug.

CAUTION : To prevent electric shock, match wide blade of plug to wide slot, fully insert.

ATTENTION : Pour éviter chocs électriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu' au fond.

CAUTION

- Leave a space around the unit for sufficient ventilation.
- Avoid installation in extremely hot or cold locations, or in an area that is exposed to direct sunlight or heating equipment.
- Keep the unit free from moisture, water, and dust.
- Do not let foreign objects in the unit.
- The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, table-cloths, curtains, etc.
- No naked flame sources, such as lighted candles, should be placed on the unit.
- Please be care the environmental aspects of battery disposal.
- The unit shall not be exposed to dripping or splashing for use.
- No objects filled with liquids, such as vases, shall be placed on the unit.
- Do not let insecticides, benzene, and thinner come in contact with the set.
- Never disassemble or modify the unit in any way.

■Notes on the AC power cord and the wall outlet.

- The unit is not disconnected from the AC power source(mains) as long as it is connected to the wall outlet, even if the unit has been turned off.
- To completely disconnect this product from the mains, disconnect the plug from the wall socket outlet.
- When setting up this product, make sure that the AC outlet you are using is easily accessible.
- Disconnect the plug from the wall outlet when not using the unit for long periods of time.

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System Connections

- Please be certain that this unit is unplugged from the AC outlet before making any connections.
- Since different components often have different terminal names, carefully read the operating instructions of the component connected.
- Be sure to observe the color coding when connecting audio, video and speaker cords.
- Make connections firmly and correctly. If not, it can cause loss of sound, noise or damage to the receiver.

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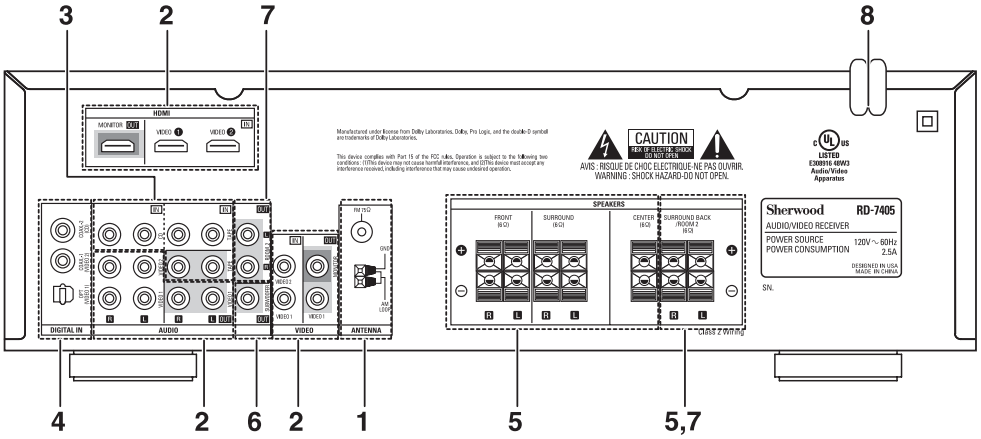
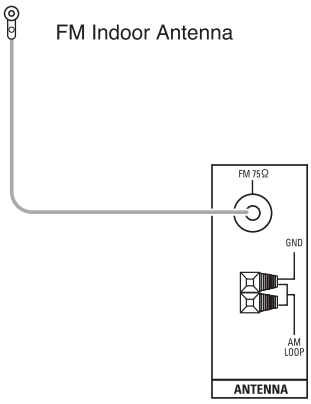
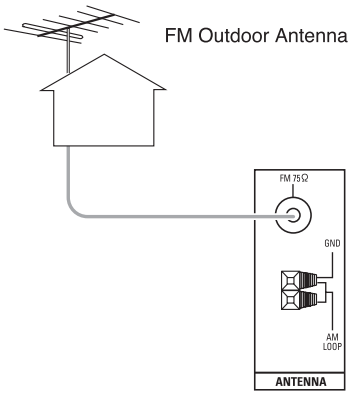
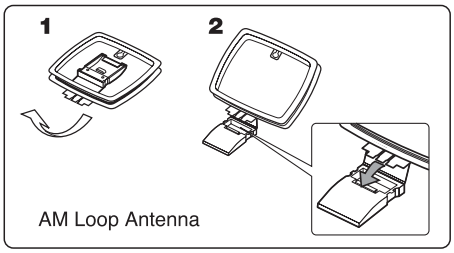


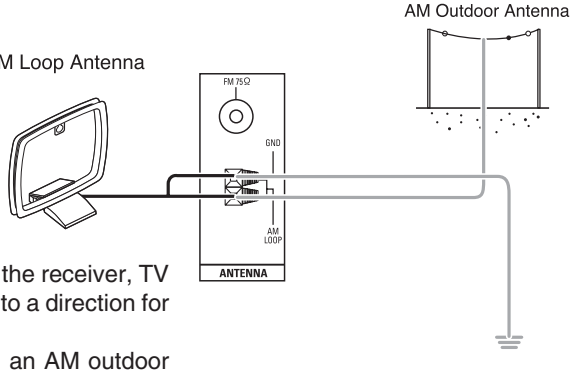
1. CONNECTING ANTENNAS





- Change the position of the FM indoor antenna until you get the best reception of your favorite FM stations.
- A 75Ω outdoor FM antenna may be used to further improve the reception. Disconnect the indoor antenna before replacing it with the outdoor one.





- Place the AM loop antenna as far as possible from the receiver, TV set, speaker cords and the AC input cord and set it to a direction for the best reception.
- If the reception is poor with the AM loop antenna, an AM outdoor antenna can be used in place of the AM loop antenna.

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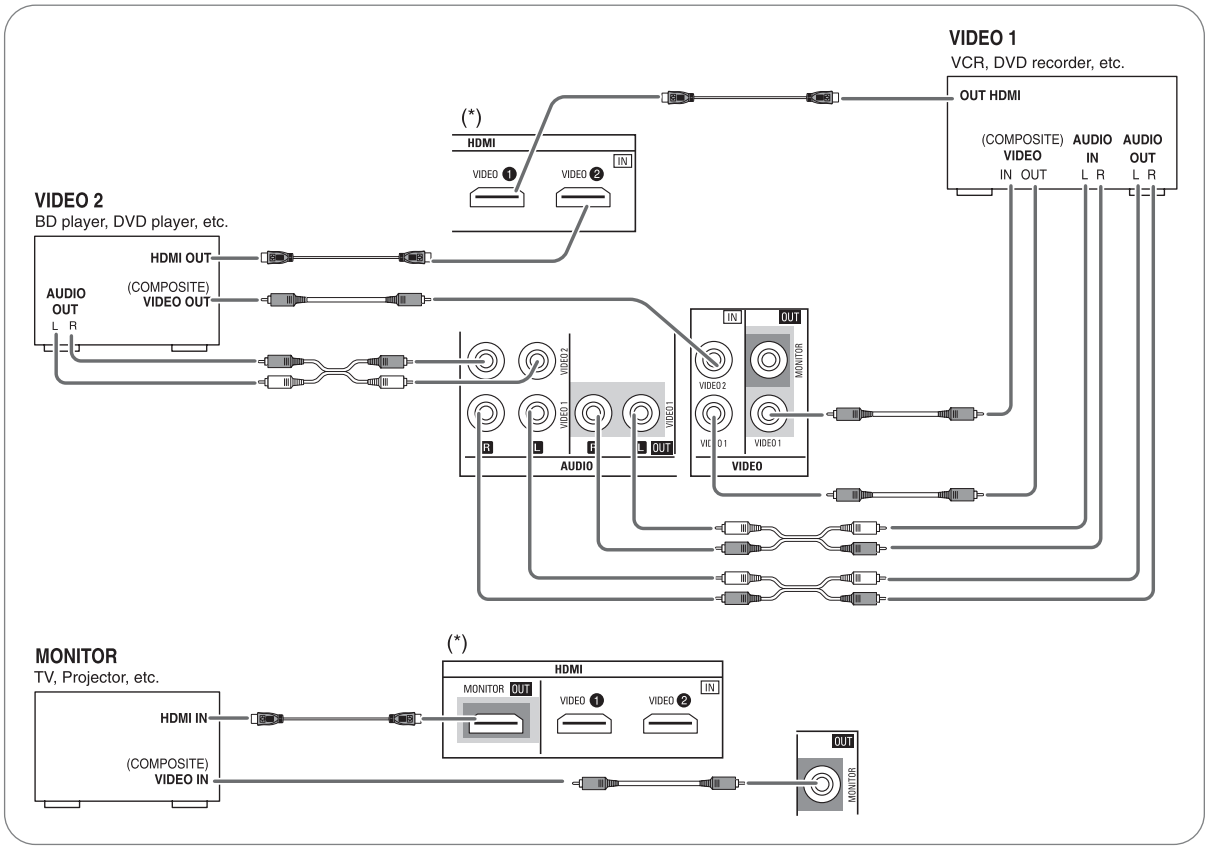
2. CONNECTING VIDEO COMPONENTS



- The jacks of VIDEO 1 may also be connected to a DVD recorder or other digital video recording component. For details, refer to the operating instructions of the component to be connected.
- The jacks of VIDEO 2 can also be connected to an additional video component such as a cable TV tuner or satellite system.
- There are (composite) VIDEO jacks for analog video connections and the HDMI connectors for digital video and audio connections.
- For your reference, the excellence in picture quality is as follows : "HDMI" > "(composite) VIDEO" .

■Note :

- When recording video program sources through the (composite) VIDEO 1 OUT jack or viewing video program sources through the (composite) MONITOR OUT jack, you must connect the (composite) VIDEO IN jack to the video playback components such as BD player, DVD player, etc.

■HDMI (High Definition Multimedia Interface) connection : (*)

- You can connect the source component (BD player, etc.) to the display component (TV, projector, etc.) through this receiver with using a commercially available HDMI cord.
- The HDMI connection can carry uncompressed digital video signals and digital audio signals.
- This receiver can output digital video and digital audio signals from the HDMI MONITOR OUT of this receiver without passing through any circuits as they were input into the HDMI IN(, meaning the audio signals which are input into the HDMI IN cannot be reproduced on this receiver).
- HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI licensing LLC.

■Notes :

- Depending on the connected component, unreliable signal transfer may happen. (For details, refer to the operating instruction of your component.)
- For stable signal transfer, we recommend using HDMI cords that are a maximum of 5 meters in length.

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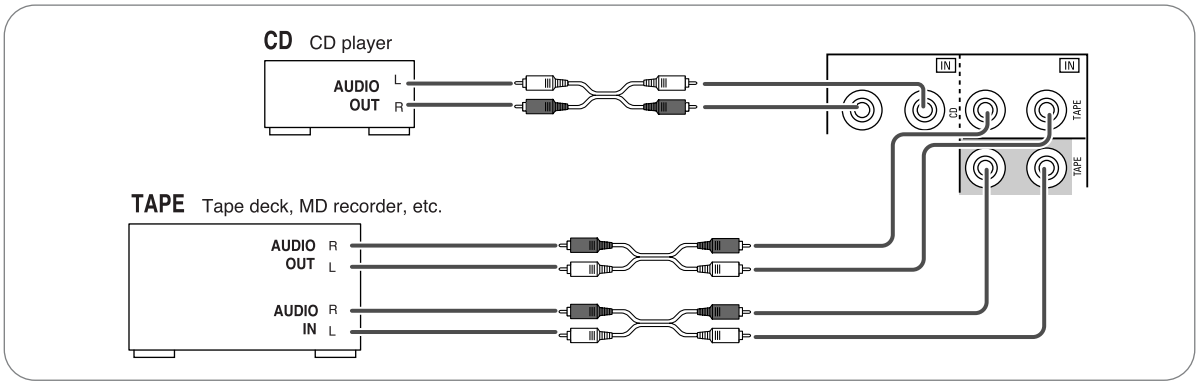
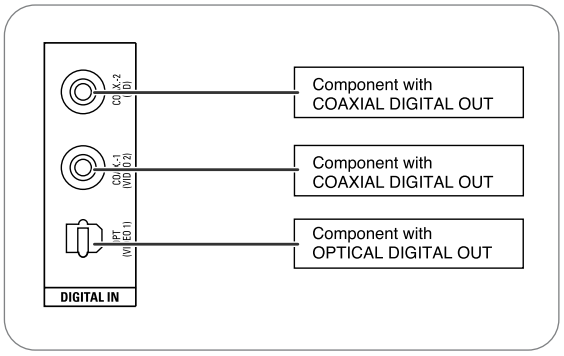
3. CONNECTING AUDIO COMPONENTS

• The TAPE IN/OUT jacks can be connected to audio recording equipment such as a tape deck, an MD recorder, etc.



4. CONNECTING DIGITAL INS



• The OPTICAL and the COAXIAL DIGITAL OUTs of the components that are connected to CD and VIDEO 1 ~ VIDEO 2 of this unit can be connected to these DIGITAL INs.
• A digital input should be connected to the components such as a CD player, DVD player, etc. capable of outputting Dolby Digital or PCM format digital signals, etc.
• For details, refer to the operating instructions of the component connected.
• When making the COAXIAL DIGITAL connection, be sure to use a 75 Ω COAXIAL cord, not a conventional AUDIO cord.
• Some of the commercially available optical fiber cords cannot be used for the equipment. If there is an optical fiber cord which cannot be connected to your equipment, consult your dealer or nearest service organization.

■Note :

• Be sure to make either a OPTICAL or a COAXIAL DIGITAL connection on each component. (You don't need to do both.)

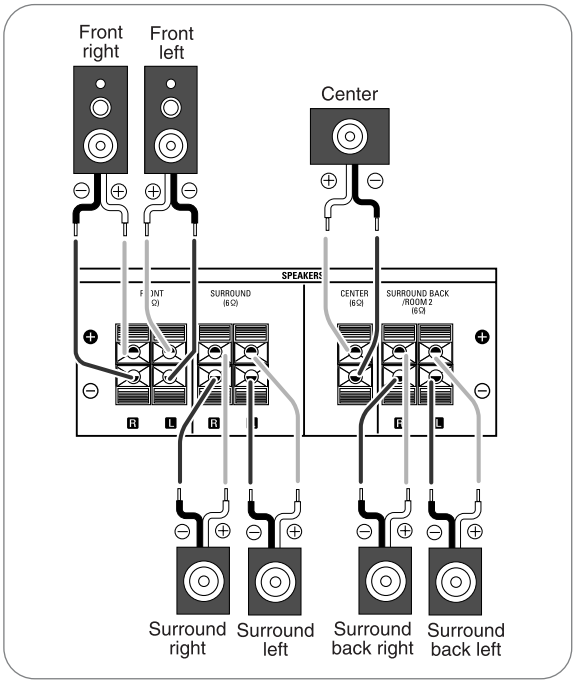
■Digital input default settings

• If you connect the DIGITAL INs to your components, it is easier to do so following the default settings.
• If your DIGITAL connections are different from default settings, you should assign the DIGITAL INs you used with the "When selecting the DIGITAL IN" procedure on page 32.
• The default settings are as follows :
OPT IN : VIDEO 1, COAX-1 IN : VIDEO 2, COAX-2 IN : CD

ENGLISH

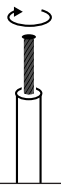
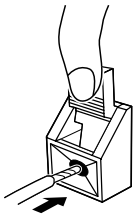
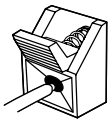
5. CONNECTING SPEAKERS

- Be sure to connect speakers firmly and correctly according to the channel(left and right) and the polarity(+ and -). If the connections are faulty, no sound will be heard from the speakers, and if the polarity of the speaker connection is incorrect, the sound will be unnatural and lack bass.
- When using only one surround back speaker, you should connect it to SURROUND BACK/ROOM 2 LEFT channel.
- Because this receiver cannot drive the surround back speakers and the ROOM 2 speakers simultaneously, you should assign their power amplifier correctly depending on how to use them. (For details, refer to “CONNECTING ROOM 2 OUT JACKS OR ROOM 2 SPEAKER TERMINALS” on page 9 and “When selecting the AMP ASSIGN” on page 30.)
- For installing the speakers, refer to "Speaker placement" on page 9.
- After installing the speakers, first adjust the speaker settings according to your environment and speaker layout.(For details, refer to "SETTING THE SPEAKER" on page 34.)



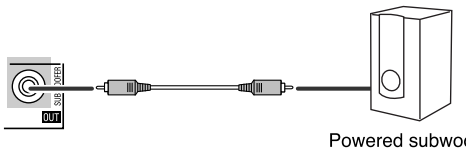
Caution :
- Be sure to use the speakers with the impedance of 6 ohms or above.
- Do not let the bare speaker wires touch each other or any metal part of this unit. This could damage this unit and/or the speakers.
- Never touch the speaker terminals while the AC input cord is connected to the wall AC outlet. Doing so could result in electric shocks.

■Connecting speaker wire

1. Strip away approx. 10 mm (3/8 inch) of wire insulation, then twist the wire ends tight.	2. Push the terminal lever, then keep this condition.	3. Insert the bare part of the wire into the hole.	4. Put the terminal lever back, then make sure it is fastened securely by pulling the wire lightly.
			

6. CONNECTING SUBWOOFER PRE OUT

- To emphasize the deep bass sounds, connect a powered subwoofer.



ENGLISH

Speaker placement

Ideal speaker placement varies depending on the size of your room and the wall coverings, etc. The typical example of speaker placement and recommendations are as follows :

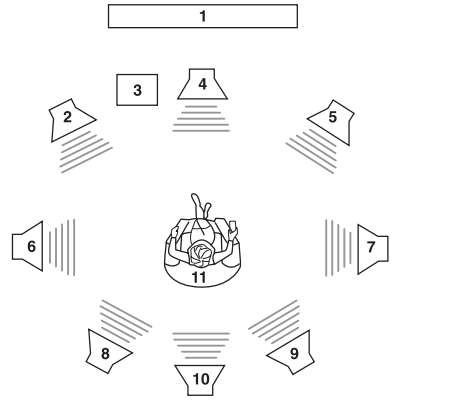
■Front left and right speakers and center speaker
- Place the front speakers with their front surfaces as flush with TV or monitor screen as possible.
- Place the center speaker between the front left and right speakers and no further from the listening position than the front speakers.
- Place each speaker so that sound is aimed at the location of the listener's ears when at the main listening position.

■Surround left and right speakers
- Place the surround speakers approximately 1 meter (40 inches) above the ear level of a seated listener on the direct left and right of them or slightly behind.

■Surround back left and right speakers
- Place the surround back speakers at the back facing the front at a narrower distance than front speakers.
- When using a single surround back speaker, place it at the rear center facing the front at a slightly higher position (0 to 20 cm) than the surround speakers.
- We recommend installing the surround back speaker(s) at a slightly downward facing angle. This effectively prevents the surround back channel signals from reflecting off the TV or screen at the front center, resulting in interference and making the sense of movement from the front to the back less sharp.

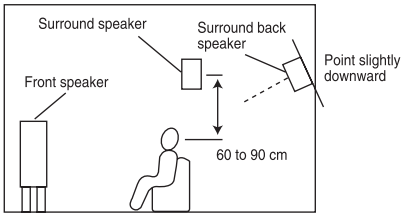
■Subwoofer
- The subwoofer reproduces powerful deep bass sounds. Place a subwoofer anywhere in the front as desired.

■Notes :
- When using a conventional TV, to avoid interference with the TV picture, use only magnetically shielded front left and right and center speakers.
- To obtain the best surround effects, the speakers except the subwoofer should be full range speakers.



1. TV or Screen
2. Front left speaker
3. Subwoofer
4. Center speaker
5. Front right speaker
6. Surround left speaker
7. Surround right speaker
8. Surround back left speaker
9. Surround back right speaker
10. Surround center speaker
11. Listening position

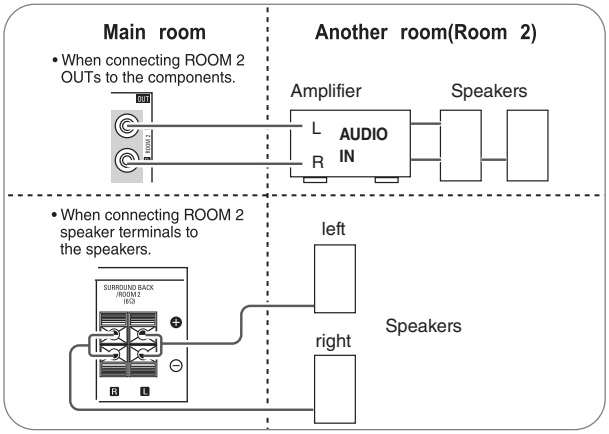
- 5.1 channel speaker system :
  - front(2, 5), center(4), surround(6, 7), subwoofer(3)
- 6.1 channel speaker system :
  - 5.1 channel speaker system+surround center(10)
- 7.1 channel speaker system :
  - 5.1 channel speaker system+surround back(8, 9)



7. CONNECTING ROOM 2 OUT JACKS OR ROOM 2 SPEAKER TERMINALS

- ROOM 2 playback feature allows you to play a different program source in another room as well as one source in the main room at the same time.
- For ROOM 2 playback, connect the ROOM 2 OUT jacks to the amplifier installed in another room, or connect the ROOM 2 speaker terminals to the speakers.
- Because this receiver cannot drive the surround back speakers and the ROOM 2 speakers simultaneously, you should assign their power amplifier correctly depending on how to use them. (For details, refer to "When selecting the AMP ASSIGN" on page 30.)

■Notes :
- To minimize hum or noise, use high quality connection cords.
- You cannot use the digital audio signal for ROOM 2 playback.



8. AC INPUT CORD

- Plug the cord into a wall AC outlet.

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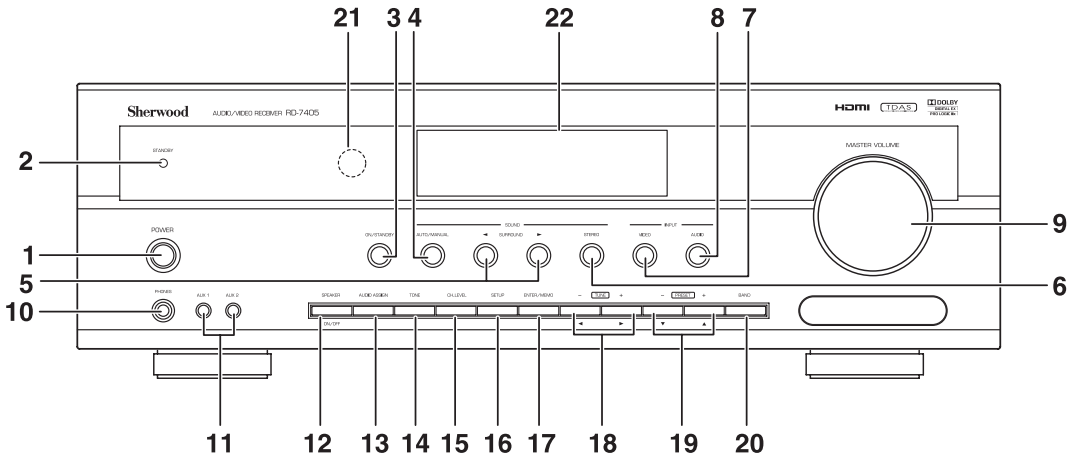
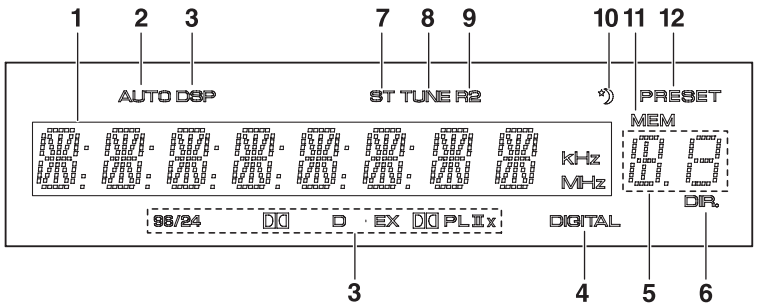
Front Panel Controls



1. POWER switch
2. STANDBY indicator
3. POWER ON/STANDBY button
4. AUTO/MANUAL button
5. SURROUND MODE UP/DOWN(▶/◀) buttons
6. STEREO button
7. VIDEO INPUT SELECTOR button
8. AUDIO INPUT SELECTOR button
9. MASTER VOLUME knob
10. HEADPHONE jack
11. AUX 1, 2 IN jacks
    For details, see next page.
12. SPEAKER button
13. AUDIO ASSIGN button
14. TONE MODE button
15. CHANNEL LEVEL button
16. SETUP button
17. ENTER/MEMORY button
18. TUNING UP/DOWN(+/-),
    CURSOR LEFT/RIGHT(◀/▶) buttons
19. PRESET UP/DOWN(+/-),
    CURSOR UP/DOWN(▲/▼) buttons
20. BAND button
21. REMOTE SENSOR
22. FLUORESCENT DISPLAY
    For details, see below.

■FLUORESCENT DISPLAY



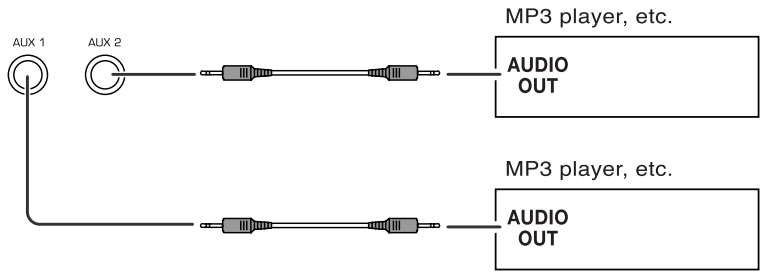
1. Input, frequency, volume level, operating information, etc.
2. AUTO indicator
3. Surround mode indicators
4. DIGITAL INPUT indicator
5. Preset number, sleep time display
6. DIRECT indicator
7. STEREO indicator
8. TUNED indicator
9. ROOM 2 indicator
10. SLEEP indicator
11. MEMORY indicator
12. PRESET indicator

■AUX IN JACK

• The AUX 1, 2 IN jacks can be connected to additional audio components such as an MP3 player, etc.

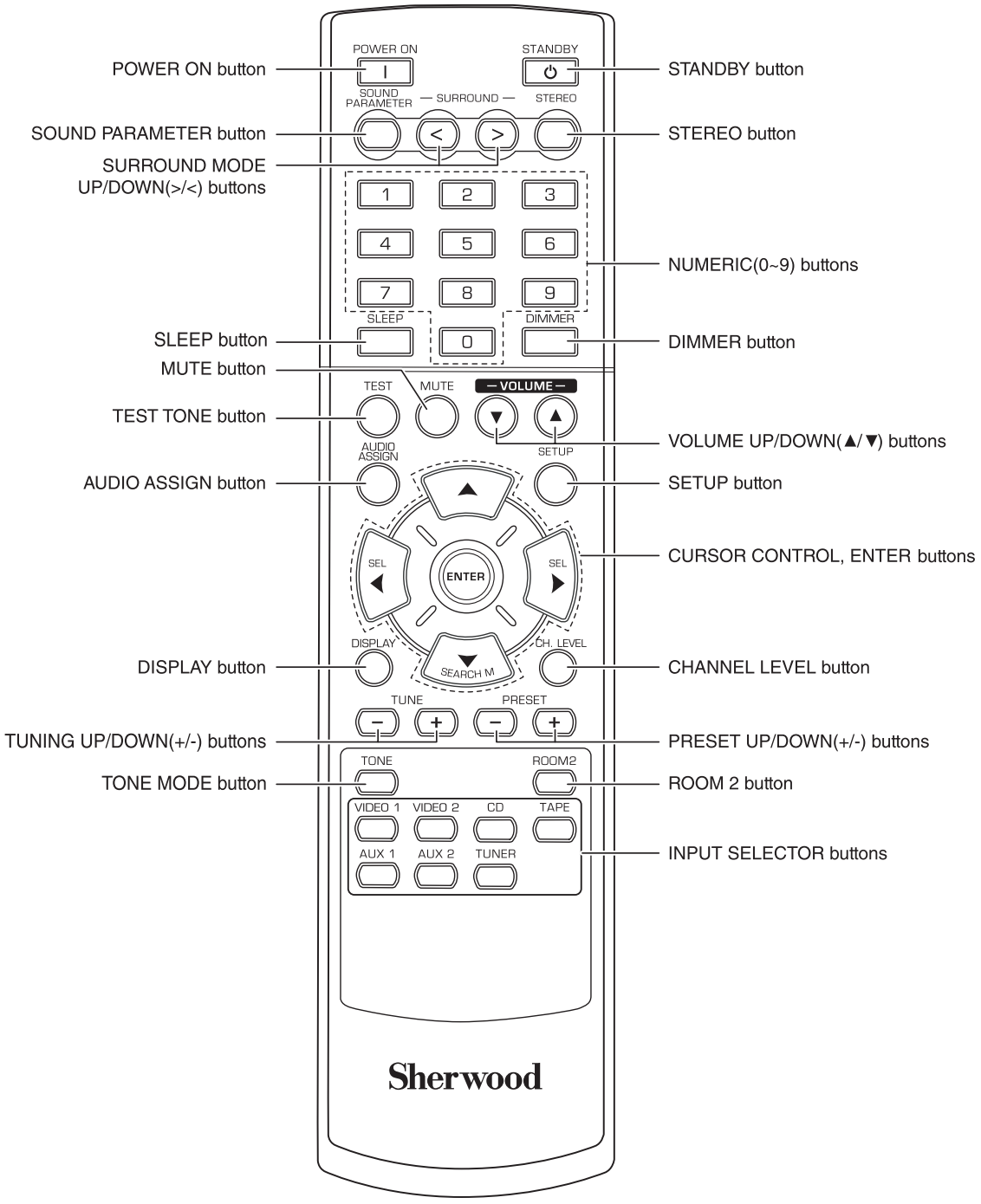
■Note :

• When connecting these jacks to an MP3 player, etc., you should use the stereo mini cord, not a mono mini cord.

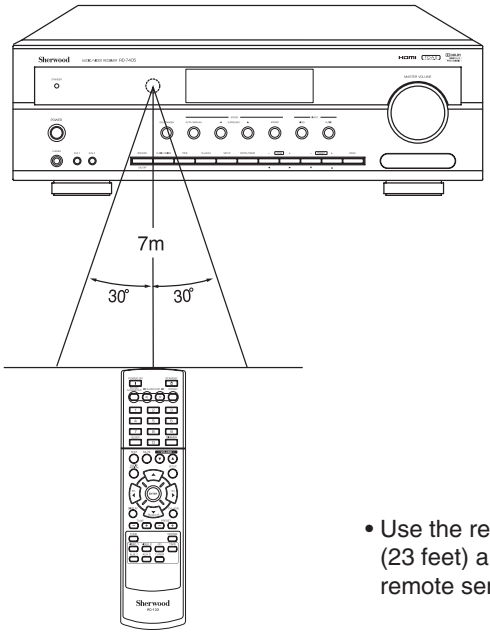


Remote Controls

ENGLISH



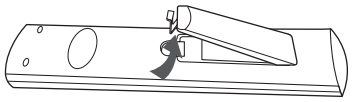
REMOTE CONTROL OPERATION RANGE



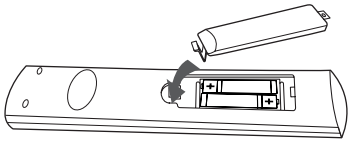
• Use the remote control unit within a range of about 7 meters (23 feet) and angles of up to 30 degrees aiming at the remote sensor.

LOADING BATTERIES

1. Remove the cover.



2. Load two batteries ("AAA" size, 1.5 V) matching the polarity.



• Remove the batteries when they are not used for a long time.
• Do not use the rechargeable batteries (Ni-Cd type).

Operations

■**Note :** Before operating this receiver, first set this unit as desired for optimum performance, doing the system setup procedures. (For details, refer to "System Setup" on page 28.)

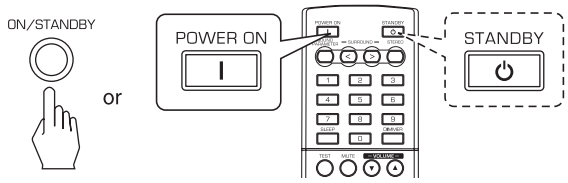
ENGLISH

LISTENING TO A PROGRAM SOURCE

Before operation

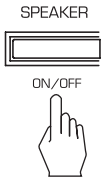
- Enter the standby mode.
- The STANDBY indicator lights up. This means that the receiver is not disconnected from the AC mains and a small amount of current is retained to support the operation readiness.
- To switch the power off, push the POWER switch again.
- Then the power is cut off and the STANDBY indicator goes off.

1. In the standby mode, turn the power on.



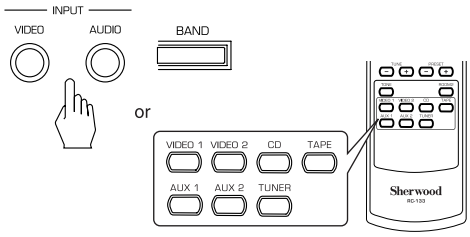
- Each time the POWER ON/STANDBY button on the front panel is pressed, the receiver is turned on to enter the operating mode or off to enter the standby mode.
- On the remote control, press the POWER ON button to enter the operating mode or press the STANDBY button to enter the standby mode.
- In the standby mode, if the INPUT SELECTOR button is pressed, the receiver is turned on automatically and the desired input is selected.

2. Switch the speakers on.



- Then “SPK ON” is displayed and the sound can be heard from the speakers connected to the speaker terminals.
- When using the headphones for private listening, press the SPEAKER button again to switch the speakers off(“HP ON” is displayed).

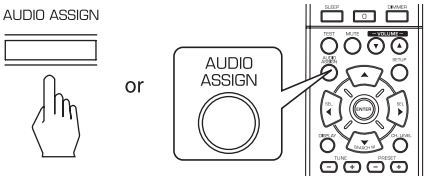
3. Select the desired input source.



- Each time the “VIDEO” button on the front panel is pressed, the input source changes as follows:
  VIDEO 1 ↔ VIDEO 2
- Each time the “AUDIO” button is pressed, the input source changes as follows:
  → Tuner ↔ CD → TAPE → AUX1 → AUX 2 →
  (Frequency display)
- Each time the BAND button (or the TUNER button on the remote control) is pressed, the band changes as follows:
  → FM ST → FM MONO → AM →

When CD,VIDEO 1~ 2 is selected as an input source

4. Select the digital or the analog input connected as desired.



- Each time this button is pressed, the corresponding input is selected as follows:
  → o(ptical) → c(oaxial) 1 → c(oaxial) 2 → A(nalog) →

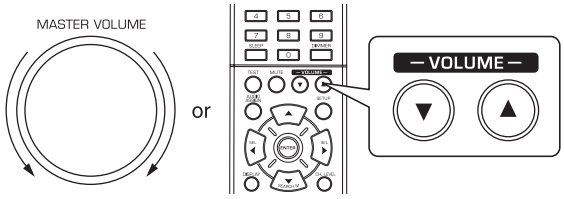
■**Notes :**

- When Tuner, AUX 1~2 or TAPE is selected as an input source, the analog input is selected automatically.
- When the selected digital input is not connected, the "DIGITAL" flickers and the analog input is automatically selected.
- The selected digital input or analog input is automatically assigned to the corresponding input source on the INPUT setup menu. (For details, refer to “When selecting the DIGITAL IN” on page 32.)
- The sound from the component connected to the selected digital input can be heard regardless of the selected input source.

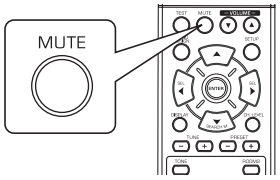
5. Operate the selected component for playback.

• When playing back the program sources with surround sound, refer to “ENJOYING SURROUND SOUND” on page 17.

6. Adjust the (overall) volume.



7. To mute the sound.



• “MUTE” will flicker.
• To resume the previous sound level, press it again.

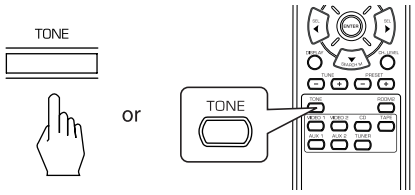
8. To listen with the headphones.

• Ensure that the SPEAKER button is set to off.
• When listening to a Dolby Digital program source, if the headphones are plugged in and the SPEAKER button is set to off, it enters the 2CH downmix mode automatically. (For details, refer to “2CH downmix mode”on page 17.)

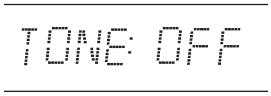
■**Note:**
• Be careful not to set the volume too high when using headphones.

Adjusting the tone (bass and treble)

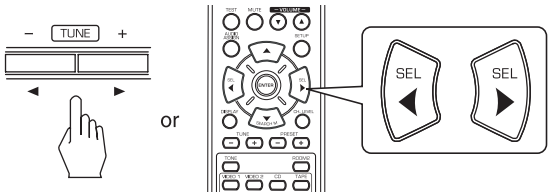
9. Enter the tone mode.



• The tone mode is displayed for several seconds.



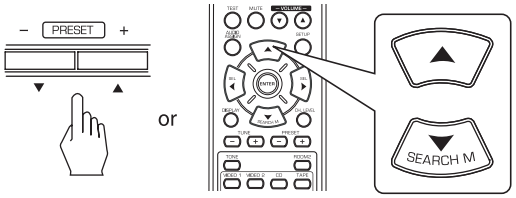
10. Press the CURSOR LEFT(◀)/RIGHT(▶) buttons to select the desired tone mode.



• Each time these buttons are pressed, the tone mode is selected as follows :
OFF : To listen to a program source without the ↕ tone effect.("DIR" lights up.)
ON : To adjust the tone for your taste.("DIR" goes off.)

■**When the TONE is set to ON to adjust the tone (bass and treble).**

11. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the desired tone.



• Each time these buttons are pressed, the tone is selected as follows: → BASS ↔ TRBL (treble) ↔ TONE:ON ←

12. Press the CURSOR LEFT(◀)/RIGHT(▶) buttons to adjust the selected tone as desired.

• The tone level can be adjusted within the range of -10 ~ +10 dB.
• In general, we recommend the bass and treble to be adjusted to 0 dB (flat level).
• Extreme settings at high volume may damage your speakers.
• If the tone display disappears, start from the step 9 again.

SURROUND SOUND

• This receiver incorporates a sophisticated Digital Signal Processor that allows you to create optimum sound quality and sound atmosphere in your personal Home Theater.

Surround modes

■Dolby Digital
Dolby Digital is the multi-channel digital signal format developed by Dolby Laboratories. Discs bearing the Dolby Digital logo includes the recording of up to 5.1 channels of digital signals. This will put you right in the middle of the action, just like being in a movie theater or concert hall.

■Dolby Digital EX
This mode expands 5.1-channel sources for 6.1/7.1 channel playback. It's especially suited to Dolby Digital EX soundtracks that include a matrix-encoded surround back channel. The additional channel adds an extra dimension and provides an enveloping surround sound experience, perfect for rotating and fly-by sound effects.

■Dolby Pro Logic IIx surround
This mode expands any 2-channel source for 7.1-channel playback. It provides a very natural and seamless surround sound experience that fully envelopes the listener. As well as music and movies,video games can also benefit from the dramatic spatial effects and vivid imaging. It includes "Dolby Pro Logic IIx Movie" suited for playing movies, "Dolby Pro Logic IIx Music" suited for playing music and "Dolby Pro Logic IIx Game" suited for playing games.

■Dolby Pro Logic II surround
If you are not using any surround back speakers, Dolby Pro Logic II surround will be used instead of Dolby Pro Logic IIx surround. It incudes Dolby Pro Logic II Movie, Dolby Pro Logic II Music and Dolby Pro Logic II Game like Dolby Pro Logic IIx surround.

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• The following modes apply conventional 2-channel signals such as digital PCM or analog stereo signals to high performance Digital Signal Processor to recreate sound fields artificially.

■Matrix
This mode reproduces a delayed signals from the surround channels to emphasize the sense of expansion for music sources.

■Church
This mode provides the ambience of a church for baroque, string orchestral or choral group music.

■Theater
This mode provides the effect of being in a movie theater when watching a movie source.

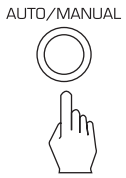
■Hall
This mode provides the ambience of a concert hall for classical music sources such as orchestral, chamber music, or an instrumental solo.

■Stadium
This mode provides the expansive sound field to achieve the true stadium effect when watching baseball or soccer games.

ENJOYING SURROUND SOUND

■**Note**: Before surround playback, first perform the speaker setup procedure, etc. on the SETUP menu for optimum performance. (For details, refer to "SETTING THE SPEAKER" on page 34.)

Depending on how to select a surround mode, select the auto surround mode or the manual surround mode.

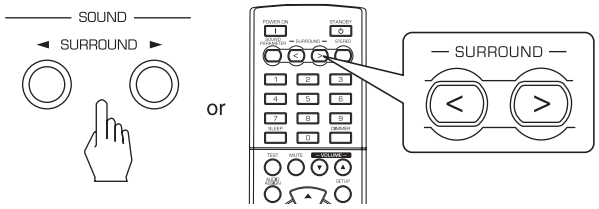


• Each time this button is pressed, the mode changes as follows :
Auto surround mode : The optimum surround mode will be automatically selected depending on the signal format being input.
("AUTO" lights up.)

Manual surround mode : You can select the desired of different surround modes selectable for the signal being input with using the SURROUND MODE UP/DOWN (>/<) buttons.
("AUTO" goes off.)

■**Notes :**
- Even when the auto surround mode is selected and the same type of digital signal format is being input, the optimum surround mode may vary depending on whether the speaker type is set to "N(No)" or not.
- When the auto surround mode is selected, the surround modes other than the optimum surround mode cannot be selected.
- When 96kHz PCM digital signal is being input, only the stereo mode will be selected.

■**When selecting the manual surround mode with pressing the AUTO/MANUAL button on the front panel.**
Select the desired surround mode.

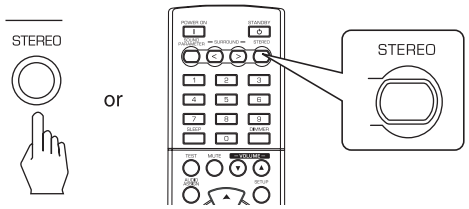


• Each time the SURROUND MODE UP/ DOWN (>/<) buttons are pressed, the surround mode changes depending on the input signal format as follows :

Signal format being input	Selectable surround mode
Dolby Digital EX 6.1 channel sources, Dolby Digital 5.1 channel sources	<DOLBY DIGITAL EX, DOLBY D + PLIIx MUSIC>, (DOLBY D + PLIIx MOVIE), DOLBY DIGITAL
Dolby Digital 2 channel sources	DOLBY DIGITAL, <DOLBY PLIIx MOVIE, DOLBY PLIIx MUSIC, DOLBY PLIIx GAME>, [DOLBY PLII MOVIE, DOLBY PLII MUSIC, DOLBY PLII GAME]
PCM (2 channel) sources, Analog stereo sources	<DOLBY PLIIx MOVIE, DOLBY PLIIx MUSIC, DOLBY PLIIx GAME>, [DOLBY PLII MOVIE, DOLBY PLII MUSIC, DOLBY PLII GAME], MATRIX, CHURCH, THEATER, HALL, STADIUM

- Depending on surround back speaker settings(“SURR B”), some surround modes can be selected or not as follows :
  < > : Possible only when surround back speaker is not set to “N(No)”.
  [ ] : Possible only when surround back speaker is set to “N(No)”.
  ( ) : Possible only when surround back speaker is set to 2ch(“L2”, “S2”).

■**To cancel the surround mode for stereo operation**



- Depending on the signal format which is being input, either the stereo mode or the 2CH downmix mode is selected.
- To cancel either the stereo mode or the 2CH downmix mode, select the surround mode with using the SURROUND MODE UP/ DOWN (>/<) buttons.

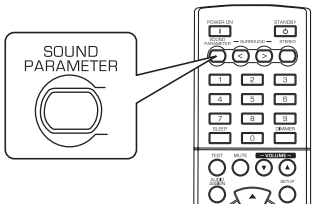
■**2CH downmix mode**
- This mode allows the multi-channel signals encoded in Dolby Digital format to be mixed down into 2 front channels and to be reproduced through only two front speakers or through headphones.
- When the SPEAKER button is set to off to listen with headphones while playing the multi-channel digital signals from Dolby Digital sources, it will enter the 2CH downmix mode automatically.

ENGLISH

When adjusting the sound parameters

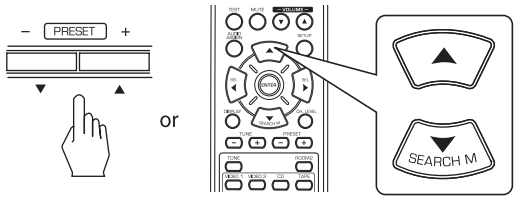
• While playing digital signals from Dolby Digital program source or listening in Dolby Pro Logic II Music mode or Dolby Pro Logic IIx Music mode, you can adjust their parameters for optimum surround effect.

1. Press the SOUND PARAMETER button.



• Then "DRC ~ " (or "PANO ~ ") is displayed.
• If the parameter mode disappears, press this button again.

2. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the desired parameter.

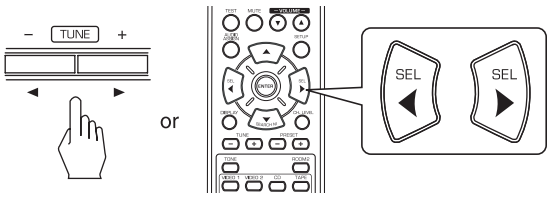


• Each time these buttons are pressed, the parameter mode changes as follows:

→ "DRC" ↔ "PANO" ↔ "CWIDTH" ↔ "DIMEN"←
(Dynamic Range Compression) (Panorama) (Center width) (Dimension)

• "DRC" can be selected only while playing digital signals from Dolby Digital source.
• "PANO", "CWIDTH" and "DIMEN" can be selected only while listening in Dolby Pro Logic II Music or Dolby Pro Logic IIx Music mode.

3. Press the CURSOR LEFT(◀)/ RIGHT(▶) buttons to adjust the selected parameter as desired.



■When selecting the "DRC (Dynamic Range Compression)" mode

This function compresses the dynamic range of previously specified parts of Dolby Digital sound track (with extremely high volume) to minimize the difference in volume between the specified and non-specified parts. This makes it easy to hear all of the sound track when watching movies at night at low levels. The DRC mode can be set in 11 steps from 0.0 to 1.0 (default value : 0.0).

■**Note :** In some Dolby Digital softwares, the DRC mode setting may not be valid.

■When selecting the "PANO (Panorama)" mode

This mode extends the front stereo image to include the surround speakers for an exciting "wraparound" effect with side wall imaging. Select "OFF" or "ON"(default value: OFF).

■When selecting the "CWIDTH (Center width)" control

This adjusts the center image so it may be heard only from the center speaker, only from the left/right speakers as a phantom image, or from all three front speakers to varying degrees.
The control can be set in 8 steps from 0 to 7(default value : 3).

■When selecting the "DIMEN (Dimension)" control

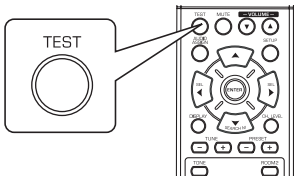
This gradually adjusts the soundfield either towards the front or towards the rear. The control can be set in 7 steps from -3 to +3 (default value : 0).

4. Repeat the above steps 2 and 3 to adjust other parameters.

Adjusting each channel level with test tone

• The volume level of each channel can be adjusted easily with the test tone function.
■**Note** : When the SPEAKER button is set to off, the test tone function does not work.

1. Enter the test tone mode.

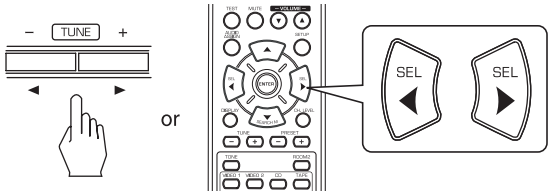


• The test tone mode is displayed and will be heard from the speaker of each channel for 2 seconds as follows:

→ FL (Front Left) → C (Center) → FR (Front Right) → SR (Surround Right) →
SW (Subwoofer) ← SL (Surround Left) (← SB (Surround Back)) or (SBL (Surr.Back Left) ← SBR (Surr.Back Right)) ←

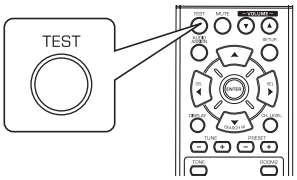
• When the speaker setting is "N(No)", the test tone of the corresponding channel is not available.
• ( ) : Possible depending on whether the surround back speaker is set to 2ch(“L2”, “S2”) or 1ch(“L1”, “S1”).

2. At each channel, adjust the level as desired until the sound level of each speaker is heard to be equally loud.



• You can select the desired channel with pressing the CURSOR UP(▲)/DOWN(▼) buttons

3. Cancel the test tone function.

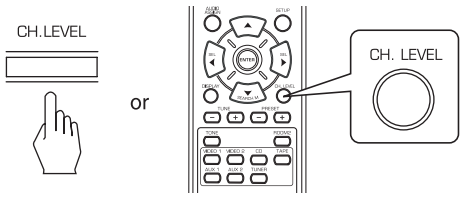


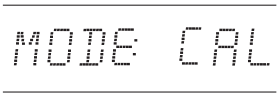
ENGLISH

Adjusting the current channel level

- After adjusting each channel level with test tone, adjust the channel levels either according to the program sources or to suit your tastes.
- You can adjust the current channel levels as desired. These adjusted levels are just memorized into user's memory ("CAL"), not into preset memory("REF 1", "REF 2").

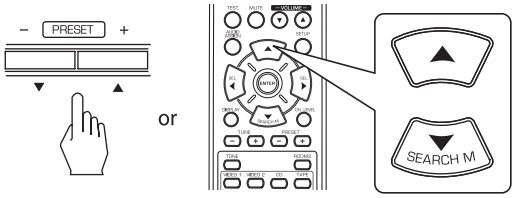
1. Press the CHANNEL LEVEL button.





- Then the memory mode ("CAL", etc.) is displayed for several seconds.
- When the memory mode or channel level disappears, press this button again.

2. Select the desired channel.



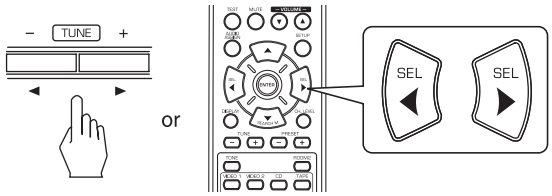
- Each time these buttons are pressed, the corresponding channel is selected as follows:

↱ REF 1, 2(or CAL) ↔ FL ↔ C ↔ FR ↔ SR ↰
↳ <DD> ↔ SW ↔ SL(↔ SB) or (↔ SBL ↔ SBR) ↲

( ) : Possible depending on whether the surround back speaker is set to 2ch("L2", "S2") or 1ch("L1", "S1").
< >: Possible only when the digital signals from Dolby Digital program sources that include LFE signal are input.

- Depending on the speaker settings ("N(No)") and surround mode, etc., some channels cannot be selected.
- When the SPEAKER button is set to off, only the Front Left, Front Right(and LFE) channels can be selected.

3. Adjust the level of the selected channel as desired.



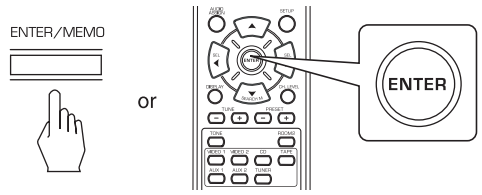
- The LFE level can be adjusted within the range of -10 ~ 0 dB and other channel levels within the range of -15 ~ +15 dB.
- In general, we recommend the LFE level to be adjusted to 0 dB. If the recommended levels seem too high, lower the setting as necessary.

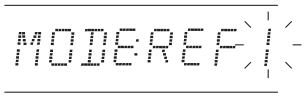
4. Repeat the above steps 2 and 3 to adjust each channel level.

Memorizing the adjusted channel levels

• You can memorize the adjusted channel levels into preset memory("REF 1", "REF 2") and recall the memorized whenever you want.

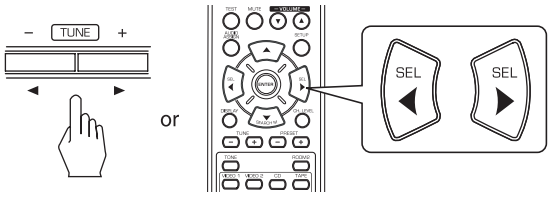
1. After performing the steps 1 ~ 4 in "Adjusting the current channel level" procedure on page 20, press the ENTER(/MEMORY) button.





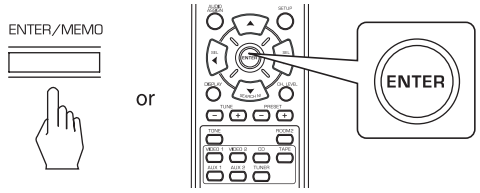
• The "1" of "REF 1" indication flickers for several seconds.

2. Select the desired one of REF 1 and REF 2.



• If the preset memory disappears, perform the above step 1 again.

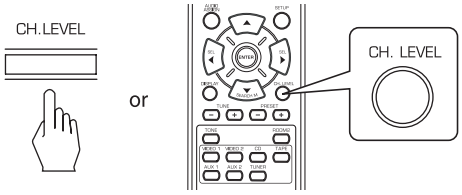
3. Confirm your selection.



• The adjusted channel levels have now been memorized into the selected memory.

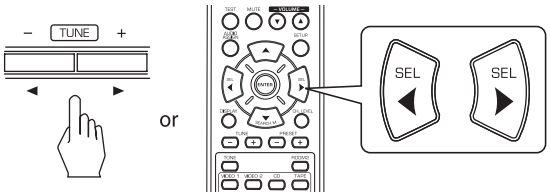
Recalling the memorized channel levels

1. Press the CHANNEL LEVEL button.



• "CAL " (or "REF 1", etc.) is displayed for several seconds.
• If the channel level mode display disappears, press this button again.

2. Select the desired one of REF 1 and REF 2.



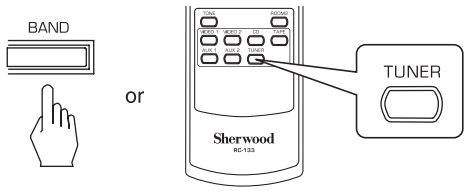
• Then the channel levels memorized into the selected preset memory are recalled.

ENGLISH

LISTENING TO RADIO BROADCASTS

Auto tuning

1. Select the desired band.

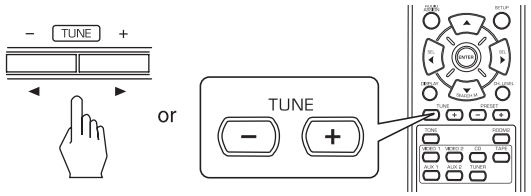


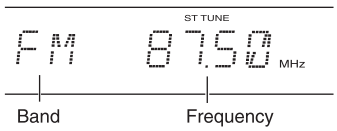
- Each time this button is pressed, the band changes as follows;

→ FM ST → FM MONO → AM →
("ST" lights up) ("ST" goes off)

- When FM stereo broadcasts are poor because of weak broadcast signals, select the FM mono mode to reduce the noise, then FM broadcasts are reproduced in monaural sound.

2. Press the TUNING UP(+)/DOWN(-) buttons for more than 0.5 second.

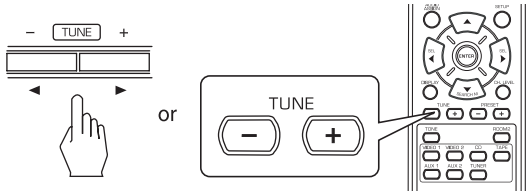




- The tuner will now search until a station of sufficient strength has been found. The display shows the tuned frequency and “TUNE”.
- If the station found is not the desired one, simply repeat this operation.
- Weak stations are skipped during auto tuning.

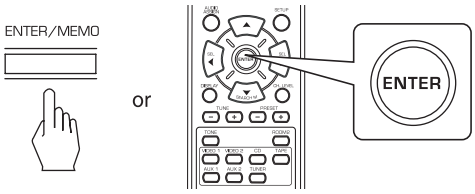
Manual tuning

- Manual tuning is useful when you already know the frequency of the desired station.
- After selecting the desried band, press the TUNING UP(+)/DOWN(-) buttons repeatedly until the right frequency has been reached.



Auto presetting

- Auto presetting function automatically searches for FM stations only and store them in the memory.
- While listening to radio broadcasts, press and hold down the ENTER(/MEMORY) button for more than 2 seconds.



- Then "AUTO MEM" flickers and this receiver starts auto presetting.
- Up to 30 stations can be stored.

■**Notes**:

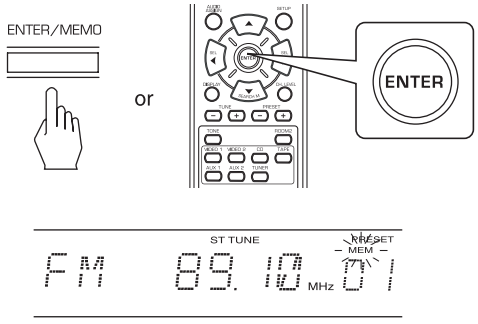
- Stations of weak strength cannot be memorized.
- To memorize AM stations or weak stations, preform "Manual presetting" procedure with using "Manual tuning" operation.

Manual presetting

• You can store up to 30 preferred stations in the memory.

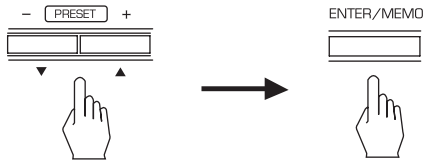
1. Tune in the desired station with auto or manual tuning.

2. Press the ENTER(/MEMORY) button.



• "MEM" is flickering for several seconds.

3. Select the desired preset number (1~30) and press the ENTER(/MEMORY) button.



• When using the NUMERIC buttons on the remote control.

Examples) For “3” : 3
For “15” : 1 within 2 seconds 5
For “30” : 3 within 2 seconds 0

• The station has now been stored in the memory.
• When using the NUMERIC buttons, the station is stored automatically without pressing the ENTER(/MEMORY) button.
• A stored frequency is erased from the memory by storing another frequency in its place.
• If “MEM” goes off, start again from the above step 2.

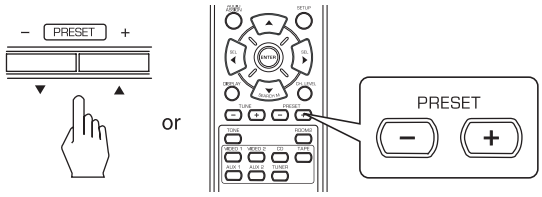
4. Repeat the above steps1 to 3 to memorize other stations.

■MEMORY BACKUP FUNCTION

The following items, set before the receiver is turned off, are memorized.
• INPUT SELECTOR settings
• Surround mode settings
• Preset stations,etc.

Tuning to preset stations

• After selecting the tuner as an input source, select the desired preset number.



• When using the NUMERIC buttons on the remote control.

Examples) For “3” : 3
For “15” : 1 within 2 seconds 5
For “30” : 3 within 2 seconds 0

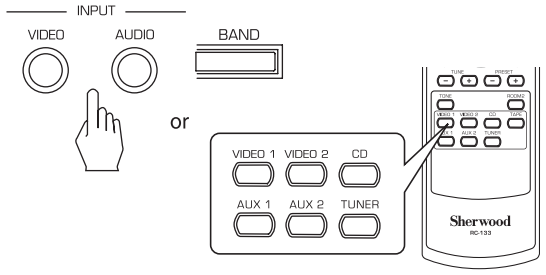
ENGLISH

RECORDING

- When recording the analog signals from CD, VIDEO 1~2, be sure to select the analog input. (For details, refer to "When CD, VIDEO 1~2 is selected as an input source" on page 14.)
- The volume and tone (bass, treble) settings have no effect on the recording signals.

Recording with TAPE

1. Select the desired input as a recording source except for TAPE.

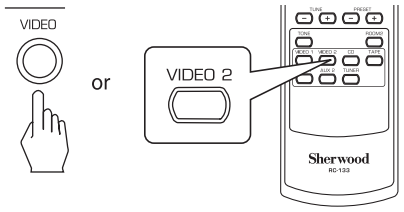


2. Start recording on the TAPE.

3. Start play on the desired input.

Dubbing from video components onto VIDEO 1

1. Select VIDEO 2 as a recording source except VIDEO 1.



2. Start recording on the VIDEO 1.

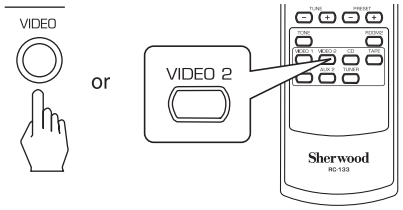
3. Start play on the desired input.

- The audio and video signals from the desired input will be dubbed onto the VIDEO 1 and you can enjoy them on the TV set and from the speakers.

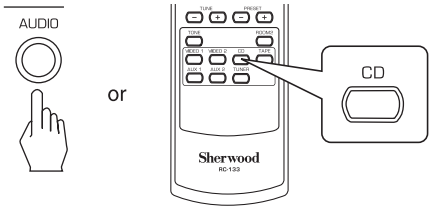
Dubbing the audio and video signals separately onto VIDEO 1

Example) When dubbing the VIDEO 2 video signal and the CD audio signal separately onto VIDEO 1.

1. Select VIDEO 2 as a video recording source.



2. Select CD as an audio recording source.



3. Start recording on the VIDEO 1.

4. Start play on the VIDEO 2 and the CD respectively.

- The audio signal from the CD and the video signal from the VIDEO 2 will be dubbed and you can enjoy them on the TV set and from the speakers.

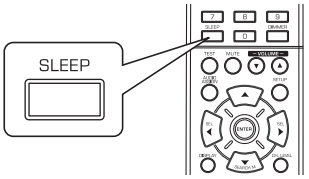
■ **Note :** Be sure to observe the order of the above steps 1 and 2.

ENGLISH

OTHER FUNCTIONS

Operating the sleep timer

- The sleep timer allows the system to continue to operate for a specified period of time before automatically shutting off.
- To set the receiver to automatically turn off after the specified period of time.

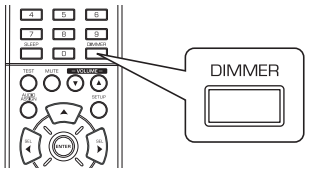


- Each time this button is pressed, the sleep time changes as follows:

→ 10 → 20 → 30 → --- → 90 → OFF →
Unit : minutes

- While operating the sleep timer, " " lights up.
- When the sleep time is selected, the fluorescent display is dimly lit.

Adjusting the brightness of the fluorescent displays



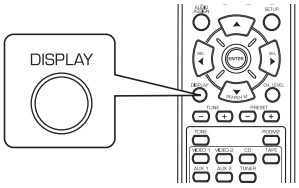
- Each time this button is pressed, the brightness of the fluorescent display changes as follows:

→ ON → dimmer → OFF →

- In the display OFF mode, pressing any button will restore the display ON mode.

Displaying the operation status

During playback,



- Each time this button is pressed, the display mode changes as follows:

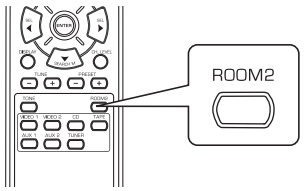
→ Surround mode → Volume → Input source →

ROOM 2 SOURCE PLAYBACK

• This function allows enjoying one source in the main room and playing another in a different room at the same time.

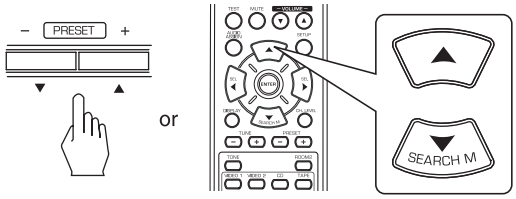
■Notes:
• The digital audio signals cannot be heard in the different room(ROOM 2).
Therefore, to hear the sound from the ROOM 2 source, make the analog audio connection between components.
• Even when this receiver enters the standby mode, in such a case that only the "R2" lights up still, meaning only the ROOM 2 circuitry operates, the ROOM 2 source can be played independently.
• When you do not use the ROOM 2 function, turn off the ROOM 2 function to save electricity.

1. Press the ROOM 2 button to enter the ROOM 2 mode.



• ROOM 2 ~ is displayed for several seconds.
• When the ROOM 2 setting mode disappears, press the ROOM 2 button again.

2. Select the desired mode while displaying the ROOM 2 setting mode.

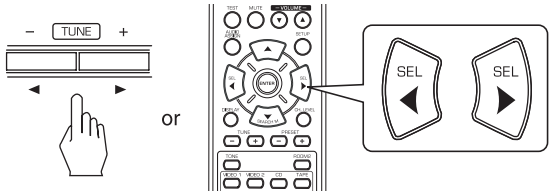


• Each time these buttons are pressed, the mode changes as follows :

→ ROOM 2 ~ : To turn on or off the ROOM 2 function.
(ROOM 2 mode)
↕
IN ~ : To select the desired ROOM 2 source.
(ROOM 2 input)
↕
→ VOL ~ : To adjust the volume on the power amplifier assigned to "R2".
(ROOM 2 volume)

■Note :
• When the ROOM 2 mode is set to OFF, the ROOM 2 input and the ROOM 2 volume cannot be selected.

3. Set the selected mode as desired.



■When selecting the ROOM 2 mode.
ON : To turn on the ROOM 2 function.("R2" lights up.)
↕
OFF : To turn it off. ("R2" goes off.)

■When selecting the ROOM 2 input.
• You can select the desired among MAIN source, TUNER, CD, TAPE, AUX 1~AUX 2, VIDEO 1 ~ VIDEO 2 as a ROOM 2 source.

■When selecting the ROOM 2 volume.
• You can adjust the volume on the power amplifier assigned to "R2" when the ROOM 2 speaker terminals are connected to the speakers in a different room. (For details, refer to "When selecting the AMP ASSIGN" on page 30.)

4. Start play on the component related to the ROOM 2 source.

ENGLISH

System Setup

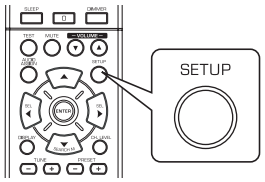
• The setup menu is displayed on the fluorescent display and allows you to perform the setup procedures easily. In most situations, you will only need to set this once during the installation and layout of your home theater, and it rarely needs to be changed later.
The setup menu consists of 5 main menus ; system, input, speaker, CH level and parameter. These menus are then divided up into various sub-menus.

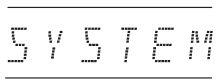
■Navigating through the setup menu

• The explanations here assume you are using the buttons on the remote control when performing the setup menu operation. However, you can use the buttons on the front panel as well.
The buttons on the front panel correspond to those on the remote control as shown below.

Button on the remote control	SETUP	ENTER	SEL ◄ SEL ►	▲ SEARCH M ▼
Button on the front panel	SETUP	ENTER/MEMO	– TUNE +	– PRESET +

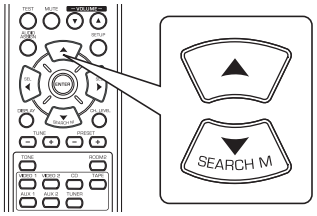
1. Turn the setup menu on.



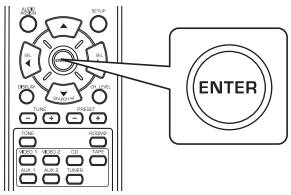


• The setup menu will be shown.
• To turn the menu off, press this button again.

2. Select the desired menu using the CURSOR UP(▲)/ DOWN(▼) buttons.



3. Confirm your selection.



• When selecting "SYSTEM", see "SETTING THE SYSTEM" on page 30.
• When selecting "INPUT", see "SETTING THE INPUT" on page 32.
• When selecting "SPEAKER", see "SETTING THE SPEAKER" on page 34.
• When selecting "CH LEVEL", see "SETTING THE CH LEVEL" on page 38.
• When selecting "PARAMTR", see "SETTING THE PARAMETER" on page 40.
• When selecting "EXIT", the setup menu will be turned off.

■Setup menu flow

• The setup menu flow is as follows :

: Default settings

- ◆SYSTEM
  - AMP : SB / R2
  - SW M : NORM / SW+
  - TONE : OFF / ON
  - RETURN
    - BASS : 0 / -10 ~ +10
    - TRBL : 0 / -10 ~ +10
    - RETURN
- ◆INPUT
  - VID1 CFG
    - VIDEO 1
    - DIN : OPT / COAX 1 / COAX 2 / ANL
    - RETURN
  - VID2 CFG
    - VIDEO 2
    - DIN : OPT / COAX 1 / COAX 2 / ANL
    - RETURN
  - CD CFG
    - CD
    - DIN : OPT / COAX 1 / COAX 2 / ANL
    - RETURN
  - RETURN
- ◆SPEAKER
  - CONFIG
    - FRONT : L / S
    - CENTER : L / S / N
    - SURR : L / S / N
    - SURR B : L2 / L1 / S2 / S1 / N
    - SUB-W : Y / N
    - RETURN
  - DISTANCE
    - UNIT : FT
      - FL : 10.0 FT / 0 ~ 30
      - C : 10.0 FT / 0 ~ 30
      - FR : 10.0 FT / 0 ~ 30
      - SR : 5.0 FT / 0 ~ 30
      - SBR : 5.0 FT / 0 ~ 30
      - SBL : 5.0 FT / 0 ~ 30
      - SL : 5.0 FT / 0 ~ 30
      - SW : 5.0 FT / 0 ~ 30
      - RETURN
    - /M
      - FL : 3.0 M / 0 ~ 9.0
      - C : 3.0 M / 0 ~ 9.0
      - FR : 3.0 M / 0 ~ 9.0
      - SR : 1.5 M / 0 ~ 9.0
      - SBR : 1.5 M / 0 ~ 9.0
      - SBL : 1.5 M / 0 ~ 9.0
      - SL : 1.5 M / 0 ~ 9.0
      - SW : 1.5 M / 0 ~ 9.0
      - RETURN
  - X-OVER
    - Fc : 80 Hz / 40 ~ 200
    - RETURN
  - RETURN
- ◆CH LEVEL
  - MODE : CAL / REF 1 / REF 2
  - FL : 0 dB / -15 ~ +15
  - C : 0 dB / -15 ~ +15
  - FR : 0 dB / -15 ~ +15
  - SR : 0 dB / -15 ~ +15
  - SBR : 0 dB / -15 ~ +15
  - SBL : 0 dB / -15 ~ +15
  - SL : 0 dB / -15 ~ +15
  - SW : 0 dB / -15 ~ +15
  - DD : 0 dB / -10 ~ 0
  - RETURN
- ◆PARAMTR
  - NIGHT
    - DRC : 0.0 / 0.0 ~ 1.0
    - RETURN
  - PLII M
    - PANO : OFF / ON
    - CWIDTH : 3 / 0 ~ 7
    - DIMEN : 0 / -3 ~ +3
    - RETURN
  - RETURN
- ◆EXIT

• When "RETURN" is selected on a sub-menu, it will returns to the previous menu.

■**Note :** During setup menu operation, only the (POWER ON/) STANDBY button and the buttons required for system setup will function.

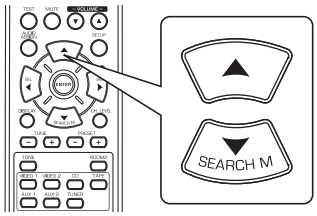
ENGLISH

SETTING THE SYSTEM

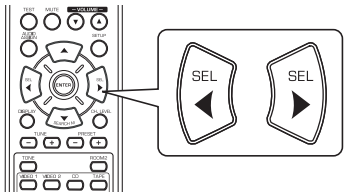
◆SYSTEM
- AMP : SB / R2
- SW M : NORM / SW+
- TONE : OFF / ON
- RETURN
  - BASS : 0 / -10 ~ +10
  - TRBL : 0 / -10 ~ +10
  - RETURN

• AMP ASSIGN : To assign the power amplifier to the surround back channels or the ROOM 2 channels.
• SW M (SUBWOOFER MODE) : To select the desired subwoofer mode.
• TONE : To adjust the tone (bass and treble) as desired.
• RETURN : To return to the previous menu.

1. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the desired item.



2. Press the CURSOR LEFT(◀)/RIGHT(▶) buttons to set the selected item as desired.



When selecting the AMP ASSIGN

• The SURROUND BACK / ROOM 2 channels' power amplifier can drive the surround back speakers or the ROOM 2 speakers. Depending on how to use the speakers, you should assign the power amplifier correctly. (For details, refer to "CONNECTING SPEAKERS" on page 8 and "CONNECTING ROOM 2 OUT JACKS OR ROOM 2 SPEAKER TERMINALS" on page 9.)

SB(SURROUND BACK): To drive the surround back speakers when connecting the SURROUND BACK/ROOM
↕ 2 channels to them.
R2(ROOM 2): To drive the ROOM 2 speakers when connecting the SURROUND BACK/ROOM 2 channels to them.

When selecting the SUBWOOFER MODE

• "SW +" mode is effective only when "FRONT" and "CENTER" are set to "L" and "SUB- W" is set to "Y" on the CONFIGURATION menu. (For details, refer to "SETTING THE SPEAKER" on page 34.)
• While playing the 2 channel source in MATRIX, CHURCH, THEATER, HALL or STADIUM mode, the low frequency signals can be reproduced from subwoofer regardless of the subwoofer mode setting.

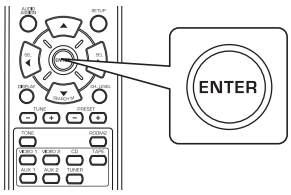
NORM : When the low frequency signals of channels set to "L" are reproduced from those channels only.
↕ In this mode, the low frequency signals that are reproduced from the subwoofer channel is only the low frequency signals of LFE (from the multi-channel sources that contains LFE (Low Frequency Effects) channel, also called the ".1" channel) and the channels set to "S".
SW +: When the low frequency signals of channels set to "L" are reproduced simultaneously from those channels and the subwoofer channel.
In this mode, the low frequency range expands more uniformly through the room, but depending on the size and shape of the room, interference may result in a decrease of the actual volume of the low frequency range.

When selecting the TONE

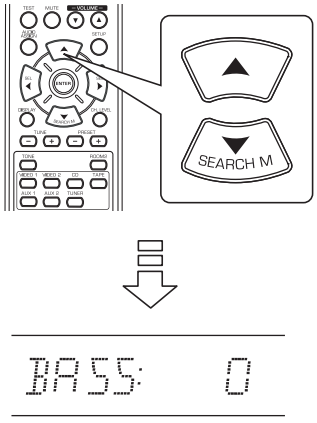
OFF : To listen to a program source without the tone effect. ("DIR" lights up.)
↕
ON : To adjust the tone for your taste. ("DIR" goes off.)

■When the TONE is set to ON to adjust the tone (bass and treble)

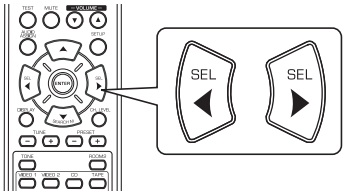
① Press the ENTER button to enter the tone setting mode.



② Press the CURSOR UP(▲)/DOWN(▼) buttons to select the desired tone.



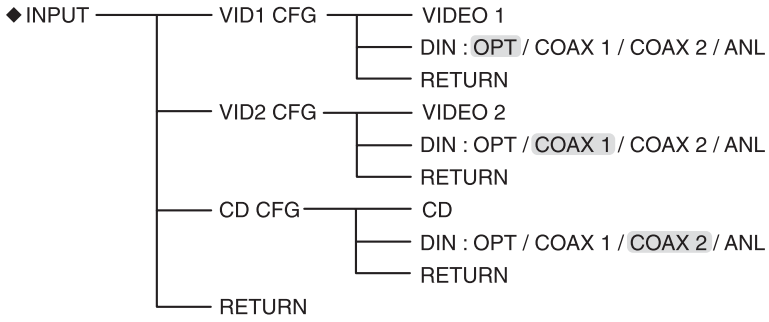
③ Press the CURSOR LEFT(◀)/RIGHT(▶) buttons to adjust the selected tone as desired.



- The tone level can be adjusted within the range of -10 ~ +10 dB.
- In general, we recommend the bass and treble to be adjusted to 0 dB (flat level).
- Extreme settings at high volume may damage your speakers.

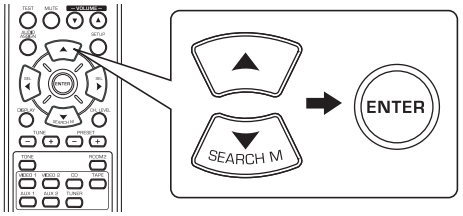
ENGLISH

SETTING THE INPUT



- Input source name(RENAME MODE) : To give a new name to the input source.
- DIN (DIGITAL IN) : To assign the connected DIGITAL INs to the desired input.
- RETURN : To return to the previous menu.

1. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the desired input source, then press the ENTER button.

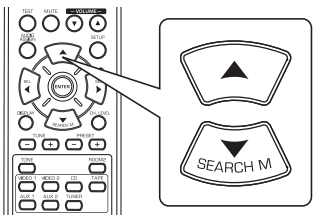


- Then the name of the selected input source is displayed.

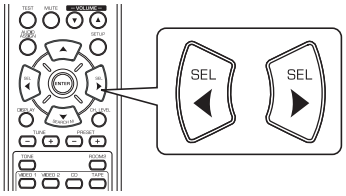
When selecting the DIGITAL IN

- You should assign the connected DIGITAL INs to the desired of CD and VIDEO 1 ~ VIDEO 2. (For details, refer to "CONNECTING DIGITAL INS" on page 7.)

2. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the “DIN”.



3. Press the CURSOR LEFT(◀)/RIGHT(▶) buttons to select the connected DIGITAL IN.



- You can select the desired of OPT (optical), COAX 1 (coaxial 1), COAX 2 (coaxial 2) and ANL (analog).

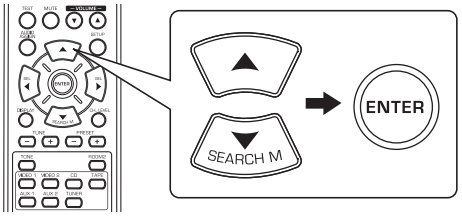
■Note :

- In such a case that a DIGITAL IN is assigned to two input sources or more, when these input sources are selected, the digital audio signals can be heard from the same DIGITAL IN.

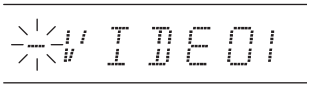
When selecting the RENAME MODE

- You can give a new name to the input source.
- Up to 7 characters can be entered for each name.

2. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the input source name(RENAME MODE), then press the ENTER button.



Example) When selecting the VIDEO 1 as an input source



3. Press the CURSOR LEFT(◀)/RIGHT(▶) buttons to select the desired digit.

- Then the cursor moves to the desired digit.

4. Press the CURSOR UP(▲)/DOWN(▼) buttons to enter the desired character on the selected digit.

- You can enter the desired among blank, A ~ Z, 0 ~ 9, (,), ∗ , +, , , —, ., /.

5. Repeat the above steps 3 and 4 to enter the desired characters on the rest of the digits.

■To resume its factory input source name

- Enter a blank on each digit.

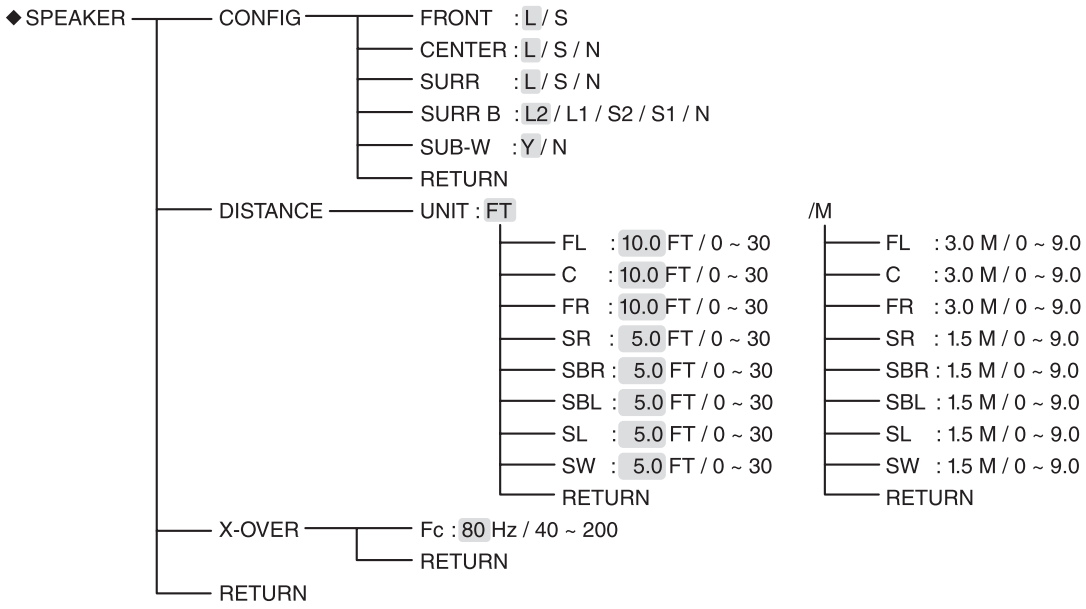
6. To confirm your entry, press the ENTER button.

- The name is stored in the memory.

ENGLISH

SETTING THE SPEAKER

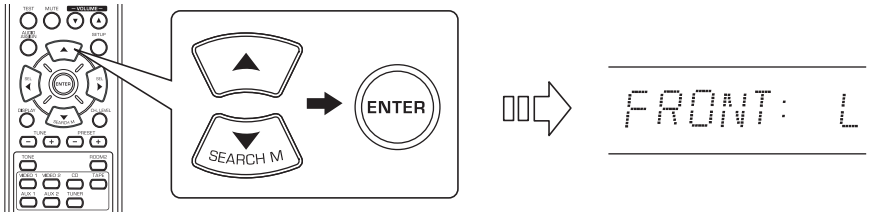
- After you have installed this receiver and connected all the components, you should adjust the speaker settings for the optimum sound acoustics according to your environment and speaker layout.
- Even when you change speakers, speaker positions, or the layout of your listening environment, you should adjust the speaker settings, too.


◆SPEAKER
CONFIG
FRONT : L / S
CENTER : L / S / N
SURR : L / S / N
SURR B : L2 / L1 / S2 / S1 / N
SUB-W : Y / N
RETURN
DISTANCE
UNIT : FT
FL : 10.0 FT / 0 ~ 30
C : 10.0 FT / 0 ~ 30
FR : 10.0 FT / 0 ~ 30
SR : 5.0 FT / 0 ~ 30
SBR : 5.0 FT / 0 ~ 30
SBL : 5.0 FT / 0 ~ 30
SL : 5.0 FT / 0 ~ 30
SW : 5.0 FT / 0 ~ 30
RETURN
/M
FL : 3.0 M / 0 ~ 9.0
C : 3.0 M / 0 ~ 9.0
FR : 3.0 M / 0 ~ 9.0
SR : 1.5 M / 0 ~ 9.0
SBR : 1.5 M / 0 ~ 9.0
SBL : 1.5 M / 0 ~ 9.0
SL : 1.5 M / 0 ~ 9.0
SW : 1.5 M / 0 ~ 9.0
RETURN
X-OVER
Fc : 80 Hz / 40 ~ 200
RETURN
RETURN

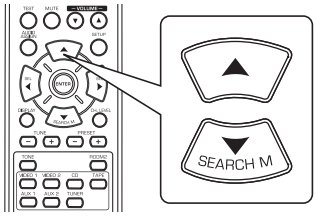
- CONFIG (CONFIGURATION) : To select the sizes of the speakers that are connected.
- DISTANCE: To enter the distance between the listening position and each speaker to set the delay time automatically for optimum surround playback.
- X-OVER (CROSSOVER) : To select the desired crossover frequency.
- RETURN : To return to the previous menu.

When selecting the CONFIGURATION

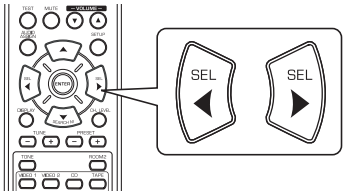
1. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the "CONFIG", then press the ENTER button.



2. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the desired speaker.



3. Press the CURSOR LEFT(◀)/ RIGHT(▶) buttons to set the selected speaker as desired.



• Depending on your speaker type, you can select one of these following speaker types.

* Front, Center, Surround and Surround Back speakers :
L(Large): Select this when connecting speakers that can fully reproduce sounds below crossover frequency.
S(Small) : Select this when connecting speakers that can not fully reproduce sounds below crossover frequency. When this is selected, sounds below crossover frequency are sent to the subwoofer or speakers which are set to "L (Large)" (when not using a subwoofer)
N(No): Select this when no speakers are connected. When this is selected, sounds are sent to the speakers which are not set to "N(No)".

* Surround Back speakers :
2/1 : Select the desired depending on the number of speakers connected to SURROUND BACK/ROOM 2 terminals.

* Subwoofer :
Y(Yes)/N(No): Select the desired depending on whether a subwoofer is connected or not.

■Notes :
• When speakers are set to "S (Small)", you should set their crossover frequency correctly according to their frequency characteristics. (For details, refer to "When selecting the CROSSOVER" on page 37.)
• When "SUB-W" is set to "N (No)", "FRONT" is automatically set to "L (Large)".
• When the "FRONT" is set to "S (Small)", "CENTER", "SURR" and “SURR B” cannot be set to "L (Large)".

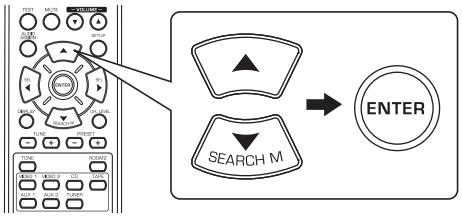
4. Repeat the above steps 2 and 3 until the speakers are all set to the desired mode.

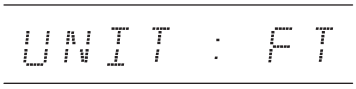
■About the speaker size
• Select "L (Large)" or "S (Small)" not according to the actual size of the speaker but according to the speaker's capacity for playing low frequency (bass sound below frequency set on the "X-OVER" menu) signals.
• If you do not know, try comparing the sound at both settings (setting the volume to a level low enough so as not to damage the speakers) to determine the proper setting.

ENGLISH

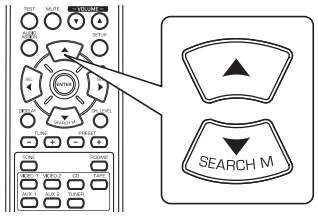
When selecting the DISTANCE

1. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the DISTANCE, then press the ENTER button.



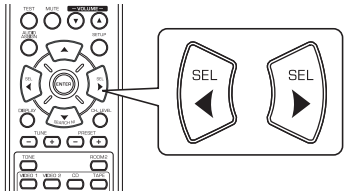


2. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the desired item.



■Note :
• You cannot select the speakers set to "N(No)".

3. Press the CURSOR LEFT(◀)/RIGHT(▶) buttons to set the selected item as desired.



■When selecting the desired unit
• You can select either "FT (Feet)" or "M (Meter)" .
• Once a unit is selected, the distances are automatically changed in the selected unit.

■When setting the distance
• You can set the distance within the range of 0 ~ 30 feet in 1 feet intervals (or 0.0 ~ 9.0 meters in 0.3 meter intervals).

4. Repeat the above steps 2 and 3 until the distances are all set as desired.

■About the speaker distance

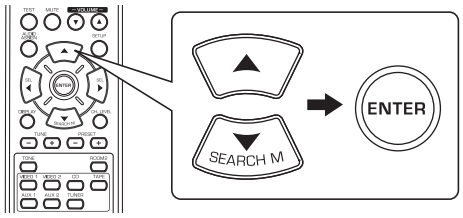
When enjoying multi-channel surround playback with Dolby Digital sources, etc., it is ideal that the center, surround, surround back and subwoofer speakers should be the same distance from the main listening position as the front speakers. By entering the distance between the listening position and each speaker, the delay times of center, surround, surround back and subwoofer speakers are automatically adjusted to create an ideal listening environment virtually as if the center, surround, surround back and subwoofer speakers were at their ideal locations respectively.

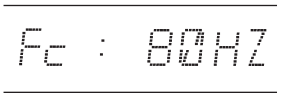
ENGLISH

When selecting the CROSSOVER

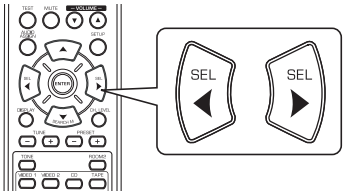
• When speakers are set to "S (Small)", be sure to set their crossover frequency correctly according to their frequency characteristics.

1. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the "X-OVER", then press the ENTER button.





2. Press the CURSOR LEFT(◀)/RIGHT(▶) buttons to set the crossover frequency as desired.



• You can adjust the crossover frequency within the range of 40 ~ 200 Hz in 10 Hz intervals.

■About the crossover frequency

• When speakers are set to "S (Small)", low frequencies in those channels that are below the crossover frequency are to output from subwoofer or front speakers which are set to "L (Large)" (when not using a subwoofer).

• Refer to the operating instructions of the speakers to be connected. If the frequency range of your speaker is 100 Hz~20 kHz, the crossover frequency should be set to 100 Hz(or slightly higher).

SETTING THE CH LEVEL

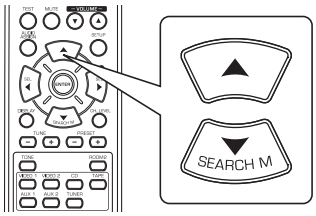
◆CH LEVEL
- MODE : CAL / REF 1 / REF 2
- FL : 0 dB / -15 ~ +15
- C : 0 dB / -15 ~ +15
- FR : 0 dB / -15 ~ +15
- SR : 0 dB / -15 ~ +15
- SBR : 0 dB / -15 ~ +15
- SBL : 0 dB / -15 ~ +15
- SL : 0 dB / -15 ~ +15
- SW : 0 dB / -15 ~ +15
- DD : 0 dB / -10 ~ 0
- RETURN

■**Note :** Depending on the speaker settings ("N (No)"), some channels cannot be selected.

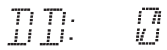
Adjusting the current channel level

- You can adjust the current channel levels as desired. These adjusted levels are just memorized into user's memory("CAL"), not into preset memory ("REF 1", "REF 2")
- After adjusting each channel level with test tone, adjust the channel levels either according to the program sources or to suit your tastes. (For details, refer to "Adjusting each channel level with test tone" on page 19.)

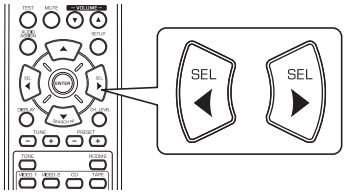
1. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the desired channel.



Example) When selecting Dolby Digital source's LFE



2. Press the CURSOR LEFT(◀)/RIGHT(▶) buttons to adjust the level of the selected channel or Dolby Digital source's LFE as desired.



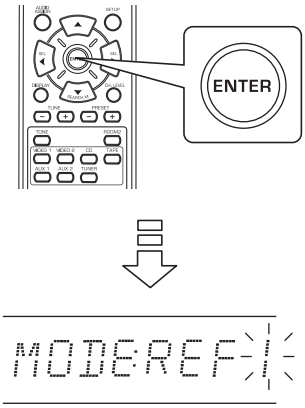
- The LFE level can be adjusted within the range of -10 ~ 0 dB and other channel levels within the range of -15 ~ +15 dB.
- In general, we recommend the LFE level to be adjusted to 0 dB. If the recommended levels seem too high, lower setting as necessary.

3. Repeat the above steps 1 and 2 to adjust each channel level.

Memorizing the adjusted channel levels

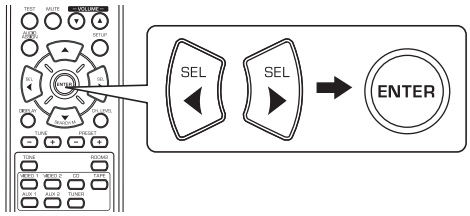
• You can memorize the adjusted channel levels into preset memory("REF 1", "REF 2") and recall the memorized whenever you want.

1. After performing the steps 1 ~ 3 in "Adjusting the current channel level" procedure on page 38, press the ENTER button.



• The "1" of "REF 1" indication flickers.

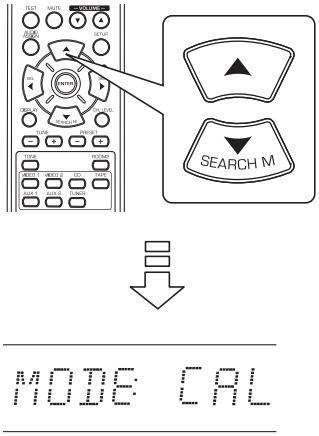
2. Press the CURSOR LEFT(◀)/RIGHT(▶) buttons to select the desired preset memory, then press the ENTER button.



• Each time the CURSOR LEFT(◀) or RIGHT(▶) button is pressed, "REF 1" or "REF 2" is selected.
• The adjusted channel levels have now been memorized into the selected memory.

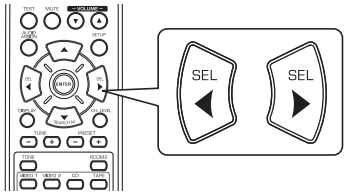
Recalling the memorized channel levels

1. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the "MODE ~ ".



• "CAL" may be displayed instead of "REF 1" or "REF 2".

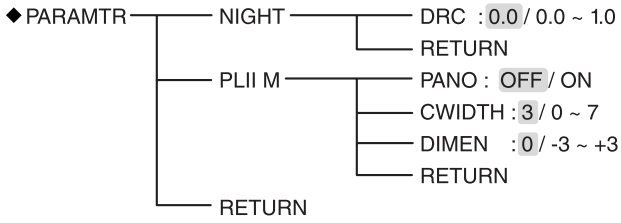
2. Press the CURSOR LEFT(◀)/RIGHT(▶) buttons to select the desired one of REF 1 and REF 2.



• Then the channel levels memorized into the selected preset memory are recalled.

ENGLISH

SETTING THE PARAMETER



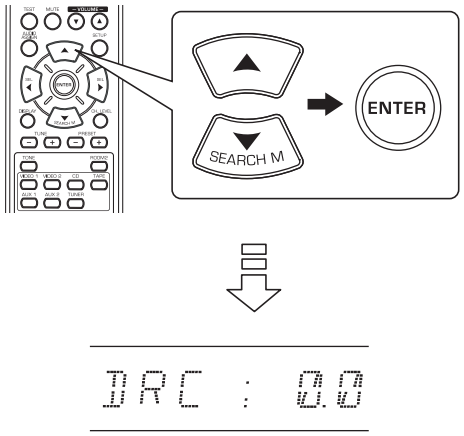
- NIGHT (NIGHT MODE) : To adjust the dynamic range compression that makes faint sound easier to hear at low volume levels.
- PLII M (DOLBY PLII MUSIC) : To adjust the various surround parameters for optimum surround effect.
- RETURN : To return to the previous menu.

When selecting the NIGHT MODE

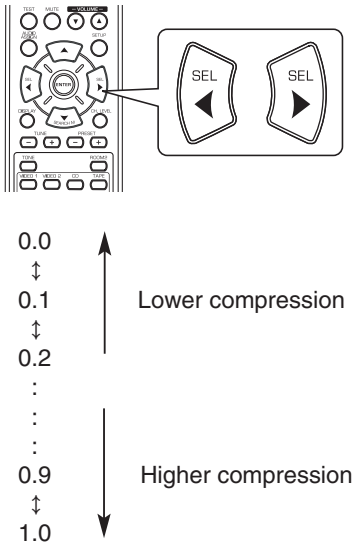
- This function compresses the dynamic range of previously specified parts of Dolby Digital sound track (with extremely high volume) to minimize the difference in volume between the specified and non-specified parts. This makes it easy to hear all of the sound track when watching movies at night at low levels.

■Notes:
- The DRC mode setting is valid only when the digital signals from Dolby Digital program source are being input.
- In some Dolby Digital softwares, the DRC mode setting may not be valid.

1. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the "NIGHT", then press the ENTER button.



2. Press the CURSOR LEFT(◀)/ RIGHT(▶) buttons to adjust the dynamic range compression as desired.



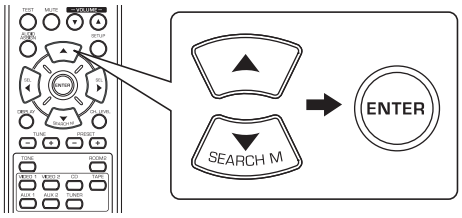
When selecting the DOLBY PLII MUSIC

• You can adjust the various surround parameters for optimum surround effect.

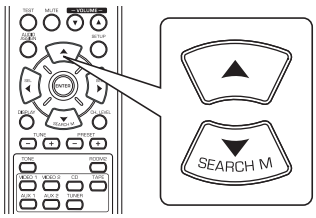
■**Note:**

• The parameter settings are valid only when listening in Dolby Pro Logic II Music or Dolby Pro Logic IIx Music mode.

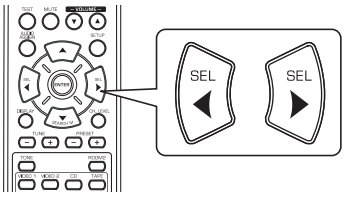
1. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the "PLII M", then press the ENTER button.



2. Press the CURSOR UP(▲)/DOWN(▼) buttons to select the desired parameter.



3. Press the CURSOR LEFT(◀)/ RIGHT(▶) buttons to adjust the selected parameter as desired.



■**When selecting the "PANO (Panorama)" mode**

This mode extends the front stereo image to include the surround speakers for an exciting "wraparound" effect with side wall imaging. Select "OFF" or "ON"(default value:OFF).

■**When selecting the "CWIDTH (Center width)" control**

This adjusts the center image so it may be heard only from the center speaker, only from the left/right speakers as a phantom image, or from all three front speakers to varying degrees. The control can be set in 8 steps from 0 to 7 (default value : 3).

■**When selecting the "DIMEN (Dimension)" control**

This gradually adjusts the soundfield either towards the front or towards the rear. The control can be set in 7 steps from -3 to +3 (default value : 0).

4. Repeat the above steps 2 and 3 to adjust other parameters.

ENGLISH

Troubleshooting Guide

If a fault occurs, run through the table below before taking your receiver for repair.
If the fault persists, attempt to solve it by switching the receiver off and on again. If this fails to resolve the situation, consult your dealer. Under no circumstances should you attempt to repair the receiver yourself. This could void the warranty.

PROBLEM	POSSIBLE CAUSE	REMEDY
No power	• The AC input cord is disconnected. • Poor connection at AC wall outlet or the outlet is inactive.	• Connect the cord securely. • Check the outlet using a lamp or another appliance.
No sound	• The speaker cords are disconnected. • The master volume is adjusted too low. • The MUTE button on the remote control is pressed to ON. • Speakers are not switched on. • Incorrect selection of the input source. • Incorrect connections between the components.	• Check the speaker connections. • Adjust the master volume. • Press the MUTE button to cancel the muting effect. • Press the SPEAKER button to ON. • Select the desired input source correctly. • Make connections correctly.
No sound from the surround speakers	• Surround mode is switched off(stereo mode). • Master volume and surround level are too low. • A monaural source is used. • Surround speaker setting is “N”.	• Select a surround mode. • Adjust master volume and surround level. • Select a stereo or surround source. • Select the desired surround speaker setting.
No sound from the center speaker	• Surround mode is switched off(stereo mode). • Center speaker setting is “N”. • Master volume and center level are too low.	• Select the desired surround. • Select the desired center speaker setting. • Adjust master volume and center level.
No sound from the surround back speakers	• The input signal format or the current surround mode cannot support the 7.1(or 6.1) surround. • The surround back channels' power amplifier is assigned to "R2". • Master volume and surround back level are too low. • Surround back speaker setting is "N".	• Under the proper situations, perform the 7.1(or 6.1) surround playback.(For details, refer to "ENJOYING SURROUND SOUND" on page17.) • Assign the power amplifier to the surround back channels.(For details, refer to "When selecting the AMP ASSIGN"on page 30.) • Adjust master volume and surround back level. • Select the desired surround back speaker setting.
Stations cannot be received	• No antenna is connected. • The desired station frequency is not tuned in. • The antenna is in wrong position.	• Connect an antenna. • Tune in the desired station frequency. • Move the antenna and retry tuning.
Preset stations cannot be received	• An incorrect station frequency has been memorized. • The memorized stations are cleared.	• Memorize the correct station frequency. • Memorize the stations again.
Poor FM reception	• No antenna is connected. • The antenna is not positioned for the best reception.	• Connect an antenna. • Change the position of the antenna.
Continuous hissing noise during FM reception, especially when a stereo broadcast is received.	• Weak signals.	• Change the position of the antenna. • Install an outdoor FM antenna.
Continuous or intermittent hissing noise during AM reception, especially at night.	• Noise is caused by motors, fluorescent lamps or lightning, etc.	• Keep the receiver away from noise sources. • Install an outdoor AM antenna.
Remote control unit does not operate.	• Batteries are not loaded or exhausted. • The remote sensor is obstructed.	• Replace the batteries. • Remove the obstacle.

Specifications

■ AMPLIFIER SECTION

- Power output, stereo mode, 6 Ω, THD 1.0%, 40 Hz~20 kHz | **2 x 50 W**
- Total harmonic distortion, 6 Ω, 50 W, 1 kHz | **0.01 %**
- Intermodulation distortion
  60 Hz : 7 kHz= 4 : 1 SMPTE, 6 Ω, 50 W | **0.01 %**
- Input sensitivity/Impedance
  Line (CD, TAPE, VIDEO) | **250 mV / 47 kΩ**
- Signal to noise ratio, IHF “A” weighted
  Line (CD, TAPE, VIDEO) | **95 dB**
- Frequency response
  Line (CD, TAPE, VIDEO), 10 Hz~100 kHz | **+0, -3 dB**
- Output level
  TAPE, ROOM 2 OUT, 2.2 kΩ | **250 mV**
  SUBWOOFER OUT, 1 kΩ | **1.0 V**
- Bass/Treble control, 100 Hz/10 kHz | **±10 dB**
- Surround mode, only channel driven
  Front power output, 6 Ω, 1 kHz, THD 1.0 % | **55 W / 55 W**
  Center power output, 6 Ω, 1 kHz, THD 1.0 % | **55 W**
  Surround power output, 6 Ω, 1 kHz, THD 1.0 % | **55 W / 55 W**
  Surround back / ROOM 2 power output, 6 Ω, 1 kHz, THD 1.0 % | **55 W / 55 W**

■ DIGITAL AUDIO SECTION

- Sampling frequency | **32, 44.1, 48, 96, 192 kHz**
- Digital input level
  Coaxial, 75 Ω | **0.5 Vp-p**
  Optical, 660 nm | **-15~-21 dBm**

■ VIDEO SECTION

- Video format | **NTSC**
- Input sensitivity (=Output level) , 75 Ω
  Video (Composite (normal)) | **1 Vp-p**
- HDMI connector | **19 pin**

■ FM TUNER SECTION

- Tuning frequency range | **87.5~108 MHz**
- Usable sensitivity, THD 3%, S/N 30 dB | **12.8 dBf**
- 50 dB quieting sensitivity, mono/stereo | **20.2 / 45.3 dBf**
- Signal to noise ratio, 65 dBf, mono/stereo | **55 / 60 dB**
- Total harmonic distortion, 65 dBf,1 kHz, mono/stereo | **0.4 / 0.5 %**
- Frequency response, 30 Hz~14 kHz | **±3.0 dB**
- Stereo separation, 1 kHz | **45 dB**
- Capture ratio | **4.0 dB**
- IF rejection ratio | **65 dB**

■ AM TUNER SECTION

- Tuning frequency range | **520~1710 kHz**
- Usable sensitivity | **500 µV/m**
- Signal to noise ratio | **35 dB**
- Selectivity | **25 dB**

■ GENERAL

- Power supply | **120 V ~ 60 Hz**
- Power consumption | **2.5 A**
- Dimensions (WxHxD, including protruding parts) | **435x143x371 mm (17-3/8x5-5/8x14-5/8 inches)**
- Weight (Net) | **8.0 kg (17.6 lbs)**

Note: Design and specifications are subject to change without notice for improvements.